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S/546/61/000/081/002/003
D039/D112

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AUTHOR: Reshetov, G. D.

TITLE: Cloudiness in the upper troposphere

PERIODICAL: Moscow, Tsentral'nyy institut prognozov, Trudy, no. 81, 1961.
Voprosy aviatsionnoy meteorologii; tuman, oblachnost',
osadki i grozy, 48 - 91

TEXT: The paper presents results of the processing and analysis of 1,664 observations of cloudiness at altitudes of 6-12 km, carried out by experts from the Tsentral'nyy institut prognozov (Central Institute of Weather Forecasting) during experimental flights made in **ТУ**-104 (TU-104) and **ИЛ**-18 (IL-18) aircraft. The results were also derived from 1,332 pilots' reports on clouds at high altitudes covering the period from 1957 to April 1960. The observations were carried out in order to provide meteorological information for flights of TU-104 and **ТУ**-114 (TU-114) aircraft, which mainly fly at altitudes of 8 - 11 km, and IL-18 and **АН**-10 (AN-10) aircraft, which fly mainly at altitudes of 6 - 9 km. The paper examines the frequency of

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cirri and cumuli congesti over cyclones (troughs), anti-cyclones (crests) and fronts; the amount, form, density, horizontal and vertical extent and height of the edge of these clouds on fronts according to the synoptic situation, latitude and season of the year; and the location and fluctuations of the upper limit of the cirri and cumuli congesti with respect to the tropopause on various fronts. The investigation of the frequency of cloudiness revealed that the clouds in the upper troposphere are more often noted over low-level cyclones (troughs), and much less often over anticyclones and crests. The investigations confirmed the results of some other investigators, e.g. those of I.G. Pchelko (Ref. 13: Meteorologicheskiye usloviya poletov na bol'shikh vysotakh [Meteorological flight conditions at high altitudes]. Gidrometeoizdat. L. 1957). On warm and occlusion fronts, cloudiness in the upper troposphere was noted in 100 per cent of cases and on cold fronts - in 98 per cent of cases. The author points out also that many other investigators, including A.M. Baranov (Ref 1: In the tropopause zone. Grazhdanskaya aviatsiya, No. 7, 1958), found that cirri in the upper troposphere occur predominantly over frontal boundaries, and only rarely (in 1.9% of cases in winter, in 7% of cases in summer) within the air mass. The

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examination of the amount and form of cloudiness and its connection with synoptic situations revealed that at high altitudes in the cold half-year period the cirrus and cirrostratus was characteristic for all types of fronts above cyclones (troughs), as well as above anticyclones and crests over the European territory of the USSR, Siberia, the [Soviet] Far East and [Soviet] Central Asia. Above the central and front parts of mature cyclones, the amount of cirri was usually 9-10 balls. This amount decreased to 5-9 balls when the distance from the center of the cyclones was 700 km and more, as well as above old filling-up cyclones. In addition to cirri, cumuli congesti develop in the warm half-year period on cold fronts and fronts of occlusion at altitudes of 6-12 km, and sometimes even on warm fronts. This happens particularly at day time. Cumuli congesti, which are the most dangerous for flights because of the strong turbulence in them, are very dense, and the visibility even at altitudes of 6-12 km may decrease to 10-15 m and less. Other dangers caused to flights by cumuli congesti are strong electrification and a short, but intense icing of the plane, which put a number of aeronavigation devices, for instance the speed indicator, out of order. There were also cases, when intense hail smashed the navigation lights, tore off aeri-als and dented the skin of the aircraft. The density of the cirri was

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far less than that of the cumuli congesti. In winter, the density of the cirri was less than in summer, so that the visibility at that time was very often 1 - 2 km and seldom as low as 0.5 km. The flights in the cirri of warm fronts were smooth. Day flights in the cirri of cold fronts and fronts of occlusions carried out in summer time, often took place under conditions of moderate (in places intense) turbulence. Flights near the cirri were smoother than in the clouds themselves. In the warm period of the year, night flights were smoother than day flights, both in the cirri and outside them. The horizontal and vertical extent and stratification of cloudiness at high altitudes were studied. N.P. Mazurin and V.G. Morachevskiy (Ref.8: On a few factors influencing the vertical extent and duration of existence of cirrostratus. Trudy LKVVIA im. A.F. Mozhayskogo, vyp. 308. 1959) noted the connection between the horizontal extent of frontal cirri and vertical updrafts. The widest zones of the cirri were observed on warm fronts, then on fronts of occlusions, and the most narrow zones - on cold fronts, averaging 545, 400 and 180 km respectively. The width of the cirri zones on warm fronts is in most cases 400 - 700 km, on cold fronts - 100 - 300 km, and on

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fronts of occlusions - 300 - 500 km. The disposition of the cirri zones on fronts of various types has the following peculiarities: as a rule, the cirri of warm and fast-moving cold fronts started above the near-the-ground location of these fronts and spread ahead of the fronts; in the cases of slowly moving cold fronts, the cirri started above the near-the-ground location of the fronts and settled behind the near-the-ground lines of fronts; on the fronts of occlusions about 2/3 of the cirri zone settled ahead and 1/3 of the zone - behind the near-the-ground location of the fronts. In the warm period of the year, cumuli congesti were noted in addition to cirri on cold fronts and fronts of occlusions and sometimes on warm fronts. They settled along the fronts in the form of banks. The width of the banks of cumuli congesti was in most cases 30-50 km, increasing to 80-100 km in the central part of the cyclones. During the flights, the length of the zones of cirri and cumuli congesti was often identical with the extent of the fronts and reached 1,500-2,000 km. It was found that the zones of the cirri connected with warm fronts were located mainly under the descending branches of the tropopause and much less often under its even course or the ascending branches. On cold fronts and fronts of occlusions, the zones of cirri and

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cumuli congesti settled mostly under the ascending branches of the tropopause. The height of the upper and lower limits of cloudiness over the fronts and the thickness of cloud decks is shown by means of six mean vertical cross sections of the frontal cloudiness. The author quotes A.M. Baranov (Ref. 3: On the vertical extent of high clouds. *Meteorologiya i gidrologiya*, No. 4. 1960), who found that the average thickness of cirri decks over the European part of the USSR was 2.2-2.3 km. To compare the data collected from the 1,664 observations made by the Central Institute of Weather Forecasting, the author processed 1,332 pilot reports on the presence of cirri and cumuli congesti in the upper layers of the troposphere. This comparison showed that in 59 per cent of cases the upper limit of cirri and cumuli congesti reaches the troposphere, but its average location is 380 m below the tropopause. However, other authors, such as N.V. Luk'yanov (Ref. 9: *Obobshcheniye rezul'tatov meteorologicheskikh nablyudeniy na bol'shikh vysotakh* [A generalization of the results of high-altitude meteorological observations]. *Metodicheskoye pis'mo* No. 39 [Methodical letter No. 39]. GUGMS. 1959.) found that the upper limit of cirri met the troposphere in a lesser percentage of cases. These results coincide with the data obtained

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by I.E. French and K.R. Iohannessen (Ref. 17: The forecasting of high clouds by means of high-altitude charts extracted from "A compendium of cirrus and forecasting." AWS TR 105 - 130.). The data on the location of the banks of cirri in relation to the tropopause which was quoted by I.E. French and K.R. Iohannessen (Ref. 17), I. Clodman (Ref. 20: Some statistical aspects of cirrus cloud. Monthly weather review. v. 82, N 2, 1957) and R.I. Murgatroyd and P. Goldsmith (Ref. 21: High cloud over southern England. Prof. Notes met. Off. London, 7, No 119, 1956.) are generally similar to those presented in the paper. Observations carried out during the flights made by the workers of the Central Institute of Weather Forecasting in TU-104 aircraft, showed that in separate instances even thin decks (0.3 - 0.5 km) with $\gamma = 0.3 - 0.4$ degrees/100 m are intercepting decks for the clouds. Usually, such conditions were observed in flights over the Caucasus and Central Asia, where the tropopause is often laminar and very thick and is usually located at 13-18 km. During the flights, however, cloudiness was not observed at altitudes of more than 10 - 12 km (seldom at 13 km). The author doubts whether cirri and cumuli congesti ever penetrate into the tropopause and the lower stratosphere as stated by V.I. Unukov, A.M. Baranov (Ref. 4: The

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spatial structure of high-level clouds in the Leningrad region. Trudy LKVVIA im.A.F. Mozhayskogo, vyp. 308. 1959) and others. Flights in TU-104 aircraft also disclosed that the horizontal visibility on the tropopause and in the lower stratosphere is exceptionally high. In many flights it reaches 600 - 700 km and more. The height of the upper edge of cirri and cumuli congesti and its fluctuations were also examined according to the character of the front, the season of the year and the geographic latitude. With regard to the latter, the data of this examination were divided into 2 groups: observations on the Moscow - Irkutsk - Khabarovsk - Vladivostok air route and observations over [Soviet] Central Asia and the Caucasus. These data show that on the average, the upper edge of the cirri and cumuli congesti was highest on warm fronts, then on fronts of occlusions, and lowest on cold fronts. On the Moscow - Khabarovsk - Vladivostok route, the mean altitudes were 10.1 km for warm fronts, 9.9 km for the fronts of occlusions and 9.6 for cold fronts, and over [Soviet] Central Asia and Kazakhstan - 10.6, 10.3 and 10.1 km respectively. There were differences in the mean altitudes of the upper limits of clouds according to seasons.

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For all types of fronts, the highest altitudes were observed in summer, then during the transitory period of the year, and the lowest in winter. The author refers to A.M. Baranov (Ref. 2: The vertical extent of high-level clouds over the European territory of the USSR. *Meteorologiya i gidrologiya*, Nr. 6. 1958; Ref. 3: The vertical extent of high-level clouds. *Meteorologiya i gidrologiya*, Nr. 4. 1960), according to whom the seasonal fluctuations of the mean altitudes of cirri were less than those given in the present paper. A comparison of the obtained results shows that the upper limit of cirri and cumuli congesti over [Soviet] Central Asia and the Caucasus was somewhat higher than at moderate latitudes, i.e. on the Moscow - Khabarovsk route. It is also mentioned that over the regions of [Soviet] Central Asia and the Caucasus two tropopauses were often noted. The first of them (the lower one) was a continuation of the moderate-latitude tropopause, the second one (the upper tropopause) was a subtropical tropopause. The mentioned peculiarities of the upper limits of clouds in various geographical regions are in agreement with results obtained by A.M. Baranov (Ref. 5: The vertical extent of the Ci - Cs clouds over various regions of the European ter-

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ritory of the USSR and their relationship with the tropopause. Trudy LKVVIA im. A.F. Mozhayskogo, vyp. 273. 1959.), who utilized observations conducted in the north-west, the center and the southern regions of the European territory of the USSR. There are 16 figures, 12 tables, 15 Soviet-bloc and 6 non-Soviet-bloc references. The references to English-language publications read as follows: French I.E. and Iohanessen K.R. Forecasting high clouds from high-level constant pressure charts. Proceedings of the Toronto Met. Conf. 1953. Amer. Met. Society and the Royal Met. Soc. p 160 - 172. London 1954; James D.I. Investigations relating to cirrus cloud. Met. Res. Papers, Air Ministry, N 933, London 1955; Clodman I. Some statistical aspects of cirrus cloud. Monthly Weather Review, v. 82, N 2. 1957; Murgatroyd R.I. and Goldsmith P. High cloud over southern England. Prof. Notes Met. Off. London. 7. No 119. 1956.

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S/169/61/000/011/053/065
D228/D304

AUTHOR: Reshetov, G.D.

TITLE: Cloudiness in the upper troposphere

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1961, 47,
abstract 11B320 (Tr. Tsentr. in-ta prognozov, no. 81,
1961, 48 - 91)

TEXT: The results are given for processing and analyzing 1664 observations of the cloudiness at altitudes of 6 - 12 km, carried out by specialists of the Tsentral'nyy institut prognozov (Central Forecasting Institute) during experimental flights in TU-104 (TU-104) and ИЛ-18 (IL-18) aircraft in 1956 - 1959, and 1332 reports of pilots on clouds at great heights for the period from 1957 to April 1960. The work considers: The frequency of cirrus and thick cumulus cloud over cyclones (troughs), anticyclones (ridges), and fronts; the amount, shape, density, horizontal and vertical extent, and height of the upper edge of these clouds on fronts in relation to the synoptic situation, latitude, and time of year; and the position and variation of the upper boundary of cirrus and thick cumulus clouds. ✓
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mulus clouds relative to the tropopause on different fronts. The characteristic of the location of cloudiness zones on warm and cold fronts and of seasonal occlusions in different parts of cyclones is given by means of mean vertical profiles of these zones. [Abstractor's note: Complete translation].

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RESHETOV, G.D.

Cloudiness at high altitudes. Meteor. i gidrol. no.4:39-43
Ap '62. (MIRA 15:5)
(Clouds)

L 34919-65

ACCESSION NR: AT5006104

S/0000/64/000/000/0042/0061

AUTHOR: Yerokhin, R. A.; Koshurnikova, N. A.; Lyubchanskiy, E. R.; Nifatov, A. P.; Reshetov, G. N.

TITLE: Content and microdistribution of plutonium-239 in rat lung and liver and morphological changes in these organs after intratracheal administration of the isotope

SOURCE: Raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya radioaktivnykh izotopov (Distribution, biological effect, acceleration of the excretion of radioactive isotopes); sbornik rabot. Moscow, Izd-vo Meditsina, 1964, 42-61

TOPIC TAGS: plutonium-239, radioisotope, inhalation, liver, lung, pathology, radioactivity, lymphatic system

ABSTRACT: The behavior of plutonium in the lung following intratracheal administration of various salts is determined largely by the physicochemical form of the compound used. The plutonium content of the lungs after administration of the nitrate was 5-10 times higher than after administration of sodium plutonyl triacetate. The clearance of plutonium administered in the form of these two salts obeys the exponential law, but it was more rapid in the case of the second salt. A large quan-

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tity of plutonium was transported from the lungs by macrophages into the regional lymph nodes. Plutonium accumulated in the liver during the early phase (20 minutes to 24 hours) more slowly after administration of the nitrate than it did after administration of sodium plutonyl triacetate. During the later phases (4 to 6 months) the rate of deposition in the liver was about the same after administration of either form of plutonium - 0.90-0.56 and 0.95-0.57% of the dose administered.

The microdistribution of plutonium in rat liver after intratracheal administration of the two plutonium salts was quite diffuse. Histological changes in the lung varied with the nature of the microdistribution of the element and they arose mainly in the places where the isotope concentrated. The severity of the pathological changes and the time when they developed were related to the ionization dose that accumulated. Among the earliest changes were degeneration; desquamation of bronchial and alveolar epithelium, and perivascular edema. These were followed by chronic inflammation, chiefly productive in character. The pathological process developed into pneumosclerosis as a result of the proliferation of connective-tissue cellular elements with the formation of fibrous structures. No significant morphological changes were noted in the liver after intratracheal administration of 7 μ c/kg of plutonium nitrate or sodium plutonyl triacetate. Orig. art. has: 15 figures, 2 tables.

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L 34919-65

ACCESSION NR: AT5006104

ASSOCIATION: none

SUBMITTED: 10Apr64

NO REF SOV: 000

ENCL: 00

OTHER: 000

0
SUB CODE: LS

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SHTABNITSKIY, Semen Solomonovich; ~~RESHETOV~~. I.I., redaktor; TARAYEVA, Ye.K.,
redaktor izdatel'stva; GUSEVA, S.S., tekhnicheskiy redaktor

[Safety engineering in the assembling of steel and precast reinforced
concrete structures] Tekhnika bezopasnosti pri montazhe stal'nykh i
sbornykh zhelezobetonnykh konstruktii. Moskva, Gos. izd-vo lit-ry
po stroit. i arkhitekture, 1956. 72 p. (MLBA 10:1)
(Reinforced concrete construction--Safety measures)
(Building, Iron and steel--Safety measures)

RESHETOV, I. N. CHULAKOV, I. G.

Reels (Textile Machinery)

Modernization of automatic reelers. Leg. prom. 12 no. 5, 1952.

Monthly List of Russian Accessions. Library of Congress, August 1952. Unclassified.

РЕЗНИТОВ, К. А.

A manual on telephony; field switchboards of medium capacity: PK-30, P-20-M, P-60-M.
Moskva, Voen. izd-vo, 1946. 142 p. (55-41061)

TK6394.R8

RESHETOV, I.V.

A woman with a noble heart. Veterinariia 41 no.3:17-19 Mr '65.
(MIRA 18:4)

~~RESHETOV, K.A.~~ inzhener-kapitan; ZHUKOV, Ya.S., inzhener-mayor; GLAZ-
KOV, G.P., inzhener-kapitan; ZERNOV, A.G., inzhener; SHTEYMAN,
A.B., podpolkovnik, redaktor; YEREMEYEVA, Ye.N., tekhnicheskii re-
daktor.

[The PK-30, R-20-M and R-60-M medium field telephone switchboards]
Polevye telefonnye kommutatory srednei smkosti PK-30, R-20-M, P-60-M.
Moskva, Voen. izd-vo Ministerstva Vooruzhennykh Sil SSSR, 1946. 142 p.
(MIRA 8:2)

1. Russia (1923- U.S.S.R.) Armiya. Upravleniye boyevoy podgotovki
voysk svyazi sukhoputnykh voyak.
(Telephone switchboards)

RESHETOV, L.

Principles of the rational designing of mechanisms. p.1.

(ARCHIWUM BUDOWY MASZYN. Vol. 4, no. 1, 1957. Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October 1957. Uncl.

SHEYNDLIN, A.Ye.; CHEKHOVSKOY, V.Ya.; RESHETOV, L.A.

High-temperature laboratory furnace with graphite heater for investigations
at temperatures up to 3000°C. Prib. i tekhn. eksp. 8 no.2:153-156 Mr-Ap
'63. (MIRA 1644)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur Moskovskogo
energeticheskogo instituta.
(Electric furnaces)

L 11388-63 EPR/EPF(c)/EPF(n)-2/EWP(q)/EWT(m)/BDS/T-2/ES(s)-2 AEDC/AFPTG/
 ASD/SSD Ps-L/Pr-L/Pu-L/Pt-L WH/WW/K S/120/63/000/002/032/041 84

AUTHOR: Sheyndlin, A. Ye., Chekhovskoy, V. Ya., and Reshetov, L. A.

TITLE: High-temperature laboratory oven with graphite elements for research at 3000°C

PERIODICAL: Priory i tekhnika eksperimenta, March-April 1963, v. 8, no. 2, 153-156.

TEXT: The article discusses the design and test results for a high-temperature oven with graphite heaters for research on enthalpy and thermal capacity. The heating elements consist of two series-connected tubes; at 3000°C the furnace drawn about 30 kw. The temperature of the heating elements is constant along their length within 10-30°C over the 1100-2700°C range. There are three figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut vysokikh temperatur MEI (High-Temperature Scientific-Research Institute at the Moscow Power Engineering Institute)

SUBMITTED: April 28, 1962

ja/CA
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REZHENOV, I.D., kardiolog, nach

Results of surgical treatment in perforating gastroduodenal
ulcers. Vest. khir. 93 no.12:14-17 D '64.

(MIRA 18:5)

1. Iz kliniki obshchey khirurgii (zav. -- dotsent R.K.Krikent
[deceased]) Dnepropetrovskogo meditsinskogo instituta, nauchnyy
rukovoditel' .. prof. N.Ya.Khoroshmanenko).

RESHETOV, L.D.

Case of heart injury. Nov.khir.arkh. no.4:79 J1-Ag '57. (MIRA 10:11)

1. Otdeleniye neotlozhnoy khirurgii 1-y Dneprodzershinskoy gorodskoy
bol'nitsy.

(HEART--WOUND AND INJURIES)

RESHETOV, L.D.

Avulsion of the leg with half of the pelvis. Ortop.travm. i protes.
18 no.4:60-61 JI-Ag '57. (MIRA 11:1)

1. Iz oddeleniya neotlozhnoy khirurgii i travmatologii 1 gor.
bol'nitsy Dneprodzerzhinska (zav. - zasluzhennyy vrach USSR
P.K.Kolesnik)

(PELVIS, wounds and inj.
tear off of half of pelvis with one leg)

RESHETOV, L.M., doktor tekhnicheskikh nauk, professor.

Calculating the flywheel of transportation machines. Vest.mash. 33 no.4:
14-15 Ap '53.

(MLRA 6:5)
(Flywheels)

RESHETOV, L.N., prof., doktor tekhn.nauk; SPORYSH, I.P., dotsent, kand.tekhn.
nauk

Efficient systems of steam distribution in steam turbines. Izv.
vys.ucheb.zav.; mashinostr. no.7:106-116 '59. (MIRA 13:6)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.
(Steam turbines)

RESHETOV, L.N., doktor tekhn.nauk, prof.

Efficient designs of planetary mechanisms. Vest.mash. 40
no.4:3-6 Ap '60. (MIRA 13:6)
(Mechanical movements)

SAVELEVA, A.A., dotsent, kand.tekhn.nauk; LUKICHEV, D.M., dotsent, kand.
tekhn.nauk; MUSATOV, A.K., starshiy prepodavatel'; NIKONOROV,
V.A., kand.tekhn.nauk; RESHETOV, L.N., doktor tekhn.nauk, prof., red.

[Theory of mechanisms and machines; lecture course] Teoriia mekha-
nizmov i mashin; kurs lektsei. Moskva, Kafedra teorii mekhanizmov
i mashin. No.3. ["Dynamics of mechanisms and machines."] Rasdel
"Dinamika mekhanizmov i mashin." 1959. 101 p.

(MIRA 14:7)

(Machinery, Kinematics of)

PA 20/49T40

RESHETOV, L. N. Prof

USSR/Electronics
Control, Electronic
Switches, Contact

Dec 48

"Construction of Contacts of Control Systems
Operating Under Severe Conditions," Prof L. N.
Reshetov, Dr Tech Sci, Dynamo Factory Imeni S. M.
Kirov, 4 1/2 pp

"Vest Elektro-Prom" No 12

Modern automatic regulation apparatus has a large
number of contacts. Disadvantage of these systems
is that damage to one contact will put whole
system out of operation until damage is repaired.

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USSR/Electronics (Contd)

Dec 48

Discusses manufacture of contacts which will
operate under severe conditions and not become
damaged. Presents details of a self-setting contact
with several fuses, good for about five breakdowns
before it must be replaced.

20/49T40

RASHKOV, I. N.

No. 38361--^{es}Tsilindrich eskle i pryamolineynye dvizhusheh~~ie~~ ya kulachki s
naklonny~~mi~~ tolkatel~~em~~. Trudy seminaro po teorii mashin i mekhanizmov (akad
nauk SSSR. In-t mashinov-deniya), t. VII, VYP. 28, 1949, c. 5-25.

So: Leto~~is~~' Zhurnal'nykk Statey, Vol. 7, 1949

RESHETOV, L. N.

Reshetov, L. N. Friction in teeth with involute profiles.
Akad. Nauk SSSR. Trudy Sem. Teorii Mašin i Mehaniz-
mov 1, 70-80 (1947). (Russian)

The "pressure pole" is the intersection of the line of centers with a line inclined at the friction angle to the common normal at the point of contact. The pressure pole always moves towards the pitch point. If two pairs of teeth are in contact, the resultant of the two reactions involved is determined and its intersection with the center line is the pressure pole. The author determines the average displacement of the center of pressure in terms of the distances along the path of contact covered during single-contact and double-contact periods, in approach and recess. The coefficient of efficiency is shown to be a function of this displacement.

A. W. Wundheiler (Chicago, Ill.).

Source: Mathematical Reviews,

Vol 13 No. 1

RESHETOV, L. N.

USSE (600)

Cams

Application of a peripheral arc in the shaping of cylindrical cams with a rotating roller pusher. Trudy Sem teor. mash., 10, no. 40, 1951.

9. Monthly List of Russian Accessions, Library of Congress, October 1951, Uncl.
2

RECHETOV, I. N.

Cams

"Rectilinearly moving cylindrical cams with rotating pusher", Trudy. Sem. teor. mash. 10, No. 40, 1951.

9. Monthly List of Russian Accessions, Library of Congress, October 1953, Uncl.
2

RESHETOV, L. N. (Prof.)

Theory of cardan joint without the application of spheric trigonometry and steric drafting.

Vest Mash p. 19, Oct. 51

RESHETOV, L. M.

Universal Joints (Mechanics)

Theory of a universal joint without using spherical trigonometry and spatial diagrams.
Vest. mash. 31, No. 10, 1951.

September, 1952

9. Monthly List of Russian Accessions, Library of Congress, 1953.^{XXXX} Unclassified.

REKHETOV, L.N.

Mathematical Reviews
May 1954.
Mechanics

①
Reketov, L. N. Application of the circular arc for ~~grinding~~
a cylindrical cam with a rolling rotating pusher. Akad.
Nauk SSSR. Trudy Sem. Teorii Mašin i Mechanizmov 10,
no. 40, 85-97 (1951). (Russian)

9-28-54
JH

RESHETOV, L. N., Prof.

Gearing, Sprial

New method of calculating geometrically evolute gears. Vest. mash., 32, No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

ACHERKAN, Naum Samuilovich, 1872- , doktor tekhnicheskikh nauk, professor, redaktor; BELYAYEV, V.N., dotsent, kandidat tekhnicheskikh nauk; BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOROVICH, L.S., kandidat tekhnicheskikh nauk; GASHINSKIY, A.G., inzhener; GORODETSKIY, N.Ye., professor, doktor tekhnicheskikh nauk; IVANOV, B.A., professor, doktor tekhnicheskikh nauk; KOLMIYTSEV, A.A., dotsent, kandidat tekhnicheskikh nauk; KRAGEL'SKIY, I.V., professor, doktor tekhnicheskikh nauk; PETRUSEVICH, A.I., doktor tekhnicheskikh nauk; POZDNYAKOV, S.N., dotsent; PONOMAREV, S.D., professor, doktor tekhnicheskikh nauk; PORTUGALOVA, A.A., kandidat tekhnicheskikh nauk; PRONIN, B.A., kandidat tekhnicheskikh nauk; RESHETOV, D.N., professor, doktor tekhnicheskikh nauk; RESHETOV, L.N., professor, doktor tekhnicheskikh nauk; SAVERIN, M.A., professor, doktor tekhnicheskikh nauk; SAVERIN, N.A., kandidat tekhnicheskikh nauk; SLOBODKIN, M.S., inzhener; SPITSYN, N.A., professor, doktor tekhnicheskikh nauk; STOLBIN, G.B., dotsent, kandidat tekhnicheskikh nauk; UMNOV, V.A., inzhener; CHERNYAK, B.Z., kandidat tekhnicheskikh nauk; SHCHEDROV, V.S., dotsent, kandidat tekhnicheskikh nauk.

[Machine parts: collection of materials on calculation and design in two volumes; vol.1] Detali mashin; sbornik materialov po raschetu i konstruirovaniyu. Izd.2., ispr.i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1953- .
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(Cam)

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 BELYAYEV, V.N., kandidat tekhnicheskikh nauk, dotsent;
 BIDERMAN, V.L., kandidat tekhnicheskikh nauk; BOROVICH, L.S.,
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 KRAGEL'SKIY, I.V., doktor tekhnicheskikh nauk, professor;
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Vest. mashinostr. 44 no.10:13-17 0 '64. (MIRA 17:11)

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nauk, dotsent; GORINA, T.I., starshiy prepodavatel'

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POPOV, S.A., kand. tekhn. nauk, dots.; LUKICHEV, D.M., kand. tekhn. nauk, dots.; SKVORTSOVA, N.A., kand. tekhn.nauk, dots.; NIKONOROV, V.A., kand. tekhn. nauk, dots.; MINUT, S.B., dots.; RESHETQV, L.N., doktor tekhn. nauk, prof.; NIKOLAYEVSKIY, Ye.V., assist.; MASTRYUKOVA, A.S., kand. tekhn. nauk;

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no.7:57-60 '62. (MIRA 16:1)

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N. E. Baumana.

(Gearing)

5
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nauki i tekhniki RSFSR; MOVNIN, Mikhail Savel'yevich, prof.,
RUDENKO, N.F., prof., doktor tekhn. nauk, retsenzent; RESHETOV,
L.N., prof., doktor tekhn. nauk, retsenzent; SHAURAK, Ye.N.,
red.; SHISHKOVA, L.M., tekhn.red.

[Theory of mechanisms and machinery; construction and kinematics
of mechanisms, dynamics of machinery and friction] Teoriya me-
khanizmov i mashin; struktura i kinematika mekhanizmov, dinamika
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(Machinery, Kinematics of) (Cams) (Gears) (Friction)

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(Equations, Cubic)
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RESHETOV, L.N.

Designing the Evans and Watt straight-line mechanisms. Trudy Inst.
mash.Sem.po teor.mash. i mekh. 23 no.89/90:89-95 '62. (MIRA 15:6)
(Mechanical movements)

KOLCHIN, Nikolay Ioasafovich, prof., doktor tekhn. nauk, zasl. deyatel' nauki i tekhniki RSFSR; MOVNIN, Mikhail Savel'yevich, prof., RUDENKO, N.F., prof., doktor tekhn. nauk, retsenzent; RESHETOV, L.N., prof., doktor tekhn. nauk, retsenzent; SHAURAK, Ye.N., red.; SHISHKOVA, L.M., tekhn.red.

[Theory of mechanisms and machinery; construction and kinematics of mechanisms, dynamics of machinery and friction] Teoriia mekhanizmov i mashin; struktura i kinematika mekhanizmov, dinamika mashin i trenie. Pod obshchei red. N.I.Kolchina. Leningrad, Sudpromgiz, 1962. 615 p. (MIRA 15:9)
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RESHETOV, L.N.

Designing guiding mechanisms. Trudy Inst.mash.Sem. po teor.mash. i
mekh. 23 no.89/90:65-71 '62. (MIRA 15:6)
(Mechanical movements)

RESHETOV, L.N.

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PHASE I BOOK EXPLOITATION

SOV/5734

Akademiya nauk SSSR. Institut mashinovedeniya. Seminar po teorii mashin i mekhanizmov.

Trudy, t. 21, vyp. 83-84 (Academy of Sciences of the USSR. Institute of Machine Science. Seminar on the Theory of Machines and Mechanisms. Transactions) v.21, nos. 83-84. Moscow, Izd-vo AN USSR, 1961. 161 p. Errata slip inserted. 2000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR.

Editorial Board: Resp. Ed.: I.I. Antobolevskiy, Academician, G.G. Baranov, Professor, Doctor of Technical Sciences; M.L. Bykhovskiy, Doctor of Technical Sciences; V.A. Gavrilenko, Professor, Doctor of Technical Sciences; V.A. Zinov'yev, Professor, Doctor of Technical Sciences; A.Ye. Kobrinskiy, Doctor of Technical Sciences; N.I. Levitskiy, Professor, Doctor of Technical Sciences; N.P. Rayevskiy, Doctor of Technical Sciences; L.N. Reshetov, Professor, Doctor of Technical Sciences; and M.A. Skuridin,

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Seminar on the Theory (Cont.)

SOV/5734

Professor, Doctor of Technical Sciences; Ed. of Publishing House: A.A. Demidenko; Tech. Ed.: S.G. Tikhomirova.

PURPOSE: This collection of articles is intended for scientific research workers and designers in the fields of machine and mechanism dynamics.

COVERAGE: The articles in No. 83 discuss the following: developments and achievements in the field of machine and experimental dynamics, including vibrations and vibratory impact; investigations in the theory of intermittent motions; differential equations for describing the joint motion of mechanical (disbalancing vibrators; investigations into the dynamics and stability of periodic regimes of motion in vibratory-impact systems; an attempt to find an approximate periodic solution of a second-order nonlinear differential equation; and results of the application of electronic analog computers in analyzing the operation of rolling mills. No. 84 includes articles on the following: an analytical

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Seminar on the Theory (Cont.)

SOV/5734

method for determining the positions of three-dimensional multiple-link mechanisms composed of three-dimensional kinematic groups with lower kinematic pairs; an analytical method for determining the parameters of the simplest hinged linkage with two degrees of freedom; a general method for investigating three-dimensional gearings; the effect of dry-friction dampers on vibrations in railway vehicles; and the utilization of Burmaster's curves for determining the parameters of a multiple-link hinged linkage with a dwell. No personalities are mentioned. References accompany individual articles. There are 260 references: 212 Soviet, 31 English, 16 German, and 1 French.

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SHATSILLO, Anton Adamovich; RESHETOV, L.N., doktor tekhn. nauk, retsen-
zent; SIDOROV, N.I., inzh., red.; MEDVEDEVA, M.A., tekhn. red.

[Traction drives of electric rolling stock] Tiagovyi privod elektropod-
vizhnogo sostava. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va pu-
tei soobshcheniia, 1961. 221 p. (MIRA 14:12)
(Electric railway motors)

RESHETOV, L.N., doktor tekhn.nauk, prof.; SPORYSH, I.P., kand.tekhn.nauk,
dotsent

Counting degrees of static indetermination (passive connections)
of mechanisms and trusses. Izv.vys.ucheb.zav.; mashinostr. no.4:
8-13 '61. (MIRA 14:6)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.
(Structures, Theory of)

S/122/60/000/004/001/014
A161/A130

AUTHOR: Reshetov, L.N., Professor, Doctor of Technical Sciences

TITLE: Rational designs for planetary gear trains

PERIODICAL: Vestnik mashinostroyeniya, no. 4, 1960, 3 - 6

TEXT: Designs suggested by the author are based on his theory published in "Vestnik mashinostroyeniya", no. 5, 1958. The essence of theory are trains without passive connections (statically determinate), being cheaper to produce and to use than the existing. Nine combinations are suggested. One of the major train elements (sun gear, pinion carrier, or support gear) is suggested to be made floating and three satellites to be used. Barrel teeth can be used to eliminate misalignments from shifting, and costs reduced by using a barrel tooth profile on one only gear in a couple and more cheap cylindrical on the other. The connection to the gear case is recommended by a double "gear cardan", i.e., one gear inside the other, both with equal tooth number. Such coupling will be as flexible as the usual cardan joint. To make the system simpler to produce, the support gear and fixed rim can have cylindrical teeth and point-contact achieved by barrel teeth on satellites and intermediate bushing that ought to

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A161/A130

Rational designs for planetary gear trains

have passive play on the shaft. A combination with floating pinion carrier would be heaviest and transmit highest torque, it is only recommended for cases where six satellites are needed. It would be better to use two floating pinion carriers with three satellites to each and a balancer (to even out torque). All the above combinations require a gear-cardan. Complex trains consisting of two simple in sequence or in closed train are better because of one link always transmitting motion from one element to the other, and just this link must float and have no bearings at all. Only stops must be used to limit its axial play and its length (i.e., the space between the gear planes) must be maximum possible because of possible inaccuracies of angles between the satellites. A split low-speed stage can be used for very high torques, and the high-speed stage used for balancing. Each train has three satellites. The circumferential forces on the satellites and idlers balanced by the floating link. Circumferential forces on the satellites are induced by the floating gear with a ball support. The passive connections in this train are $q = 2 \cdot 6 \cdot 13 + 5 \cdot 11 + 3 \cdot 1 + 1 \cdot 18 = 0$, and the ratio (given without derivation):

$$i = \frac{\omega_1}{\omega_6} = 1 + \frac{z_3}{z_1} + \frac{z_9}{z_7} + \frac{z_3}{z_1} \cdot \frac{z_6}{z_4} + \frac{z_3}{z_1} \cdot \frac{z_9}{z_7}$$

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Rational designs for planetary gear trains

In trains with free carrier, the carrier must be the floating link and distribute forces evenly to the three satellites, and the carrier must have no bearings. Space between the gear planes must be maximum possible (minding manufacturing inaccuracy). In a proper design passive connections will be: $q = w - 6n + 5p_5 + p_1$; $q = 1 - 6 \cdot 6 + 5 \cdot 5 + 1 \cdot 10 = 0$. One sun gear floating will be not good, for efforts can be transmitted by the carrier and not three but four forces will act on the satellites. If circumferential forces are even between the satellites and the drive gear, it does not mean that they will be even between the satellites and the driven gear, thus there will be passive connections, and an other sun gear will have to be made floating. This version is obviously too complex. Bevel gears are more complex to produce and in operation, but bevel gear trains would need no passive connections. Circumferential forces on the satellites in a two-satellite design can be evened out by balancing axial forces, i.e., by connecting the satellites with one axle and make the axle self-adjusting in the carrier bearings. The teeth must be barrel-shaped. The passive connections will be $q = w - 6n + 5p_5 + 4p_4 + \dots$. The passive mobility (rotary) of the satellites axle must be mined. Such a train will be good for low-displacement cars and motor cycles. The axle can be made rotary by connecting it to one satellite to eliminate friction in the balancing train. If satellites are three, one of the basic links must float.

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Rational designs for planetary gear trains

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A special balancing mechanism is needed if satellites are more than three. Such a mechanism would be particularly simple in a symmetrical planetary gear train with satellite axes at right angles to the main links. It would be an articulated polygon connecting the satellite axles and evening their axial forces. The author recommends to develop systems for different applications using the same principles but not allowing too much of mobility, not using two floating links in simple trains. There are 9 figures.

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ARTOBOLVSKIY, I.I., akademik, otv.red.; BYSTRITSKAYA, V.V., inzh., red.;
ARTOBOLVSKIY, S.I., prof., doktor tekhn.nauk, red.; BARANOV,
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doktor tekhn.nauk, red.; RESHETOV, L.N., prof., doktor tekhn.nauk,
red.; MODEL', B.I., tekhn.red.

[Theory of transmissions in machinery] Teoriia peredach v mashinakh;
sbornik statei. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
lit-ry, 1960. 172 p. (MIRA 13:12)

1. Vsesoyuznoye soveshchaniye po osnovnym problemam teorii mashin
i mekhanizmov. 2d.
(Machinery) (Power transmission)

RESHETOV, L.N., doktor tekhn.nauk, prof.

New one-sided slide rule designed according to State Standard
No.5161-57. Izv. vys.ucheb.zav.; mashinostr. no.8:49-52 '60.
(MIRA 13:9)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. N.E.
Baumana.

(Slide rule)

ARTOBOLEVSKIY, I.I., akademik, otv.red.; ARTOBOLEVSKIY, S.I., prof.,
doktor tekhn.nauk, red.; BARANOV, G.G., prof., doktor tekhn.nauk,
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prof., doktor tekhn.nauk, red.; KOBRINSKIY, A.Ye., doktor tekhn.
nauk, red.; LEVITSKIY, N.I., prof., doktor tekhn.nauk, red.;
RESHETOV, L.N., prof., doktor tekhn.nauk, red.; BYSTRITSKAYA, V.V.,
inzh., red.; MODEL', B.I., tekhn.red.

[The theory of automatic machines and the theory of precision in
the manufacture of machinery and instruments] Teoriia mashin avto-
matischeskogo deistviia i teoriia tochnosti v mashinostroenii i pri-
borostroenii; sbornik statei. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1960. 218 p. (MIRA 13:7)

1. Vsesoyuznoye soveshchaniye po osnovnym problemam teorii mashin
i mekhanizmov. 2d, Moscow, 1958.
(Machinery, Automatic) (Machinery industry)
(Instrument manufacture)

ARTOBOLVSKIY, I.I., akademik, otv.red.; ARTOBOLVSKIY, S.I., prof.,
doktor tekhn.nauk, red.; BARANOV, O.G., prof., doktor tekhn.
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tekhn.nauk, red.; LEVITSKIY, M.I., prof., doktor tekhn.nauk,
red.; REZNETOV, L.M., prof., doktor tekhn.nauk, red.; REZNETOVA,
L.V., kand.tekhn.nauk, red.; MOISEL', B.I., tekhn.red.

[Dynamics of machinery] Dinamika mashin; sbornik statei. Moskva,
Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry, 1960. 238 p.
(MIRA 13:8)

1. Vsesoyuznoye soveshchaniye po osnovnym problemam teorii mashin
i mekhanizmov. 2n, Moscow, 1958.
(Machinery) (Mechanical movements)

RESHETOV, L.N.; LUKICHEV, D.M.

New method for calculating the profile of cams outlined by circle
arcs. Trudy Inst. mash. Sem. po teor. mash. 19 no. 74:47-57 '59.
(MIRA 13:2)

(Cams)

RESHETOV, L.N., doktor tekhn.nauk, prof.

What kind of electric meters must be installed on rolling
stock. Elek.i tepl.tiaga 3 no.7:26 J1 '59. (MIRA 13:3)

(Electric meters)

Reshetov L. N.

2/4

25(2)

PHASE I BOOK EXPLOITATION

SOV/2967

Akademiya nauk SSSR. Institut mashinovedeniya. Seminar po teorii mashin i mekhanizmov

Trudy, tom XIX, vyp. 74 (Transactions of the Institute of Machine Science, Academy of Sciences, USSR. Seminar on the Theory of Machines and Mechanisms, Vol 19, No. 74) Moscow, Izd-vo AN SSSR, 1959. 66 p. Errata slip inserted. 2,500 copies printed.

Scientific Supervisor of the Seminar: I. I. Artobolevskiy, Academician; Ed. of Publishing House: G. B. Gorshkov; Tech. Ed.: I. F. Koval'skaya; Editorial Board: I. I. Artobolevskiy, Academician (Resp. Ed.); G. G. Baranov, Doctor of Technical Sciences, Professor; V. A. Gavrilenko, Doctor of Technical Sciences, Professor; V. A. Zinov'yev, Doctor of Technical Sciences, Professor; A. Ye. Kobrinskiy, Doctor of Technical Sciences; N. I. Levitskiy, Doctor of Technical Sciences, Professor; N. P. Rayevskiy, Candidate of Technical Sciences; L. N. Reshetov, Doctor of Technical Sciences, Professor; and M. A. Skuridin, Doctor of Technical Sciences, Professor.

Card 1/4

Transactions of the Institute (Cont.)

SOV/2967

PURPOSE: This book is intended for engineers interested in the theory of machines and mechanisms.

COVERAGE: The book consists of five scientific papers dealing with machines and mechanisms. The topics covered include dynamic principles of shockproof screens, electrical simulation of dynamic loads acting in mine hoisting equipment, dynamic loads in spur gears, an analytical method of designing cam profiles, and the analysis of forced vibrations in a system with a nonlinear restoring force. No personalities are mentioned. References follow several of the articles.

TABLE OF CONTENTS:

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Anilovich, V. Ya. Dynamic Principles of Shockproof Screens On the basis of an analysis of the differential equation of motion for shockproof screens used in coal-dressing plants, the author presents a method for designing and internally balancing screening machines.	5

Card 2/4

Transactions of the Institute (Cont.)

SOV/2967

Lapkin, B. D. Electrical Simulation of Dynamic Loads in Mine Hoisting Equipment 14
The author presents results of electrical simulation of dynamic loads acting on elements of a single-drum hoist during the initial stage of lifting from both shallow and deep mine shafts.

Abramov, B. M. Effect of Attached Masses on Dynamic Loads in Spur Gears 25
The author discusses the problem of determining dynamic loads on gear teeth caused by errors in manufacture. He investigates the effect of a mass mounted on a gear shaft in the form of a disk on such loads. The results show that in a gear train with very rigid short shafts, the attached masses increase dynamic loads considerably. However, with the increase in gear mass the effect of attached mass is reduced.

Card 3/4

VA/jmr
2-1-60

RESHETOV, L.N., prof. doktor tekhn. nauk.

Electric rolling stock used in the Polish People's Republic.

Elek. i topl. tiaga no.1:44-45 '57. (MIRA 12:3)
(Poland--Electric railroads)

RESHETOV, L.N., prof., doktor tekhn.nauk

Using various systems of planetary differential gears for obtaining identical kinematic results. Izv.vys.ucheb.zav.; mashinostr. no.2: 3-7 '58. (MIRA 11:12)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Bauman. (Gearing)

RESHETOV, I.N., doktor tekhn.nauk prof.

Methods for improving pantograph design. Elek. i tepl. tiaga 2
no.8:14-16 Ag '58. (MIRA 11:9)
(Pantograph)

RESHETOV, L.N., prof.

Methods for designing efficient mechanisms. [Trudy] MVTU no.77:5-47
'58. (MIRA 11:9)
(Mechanical engineering) (Mechanical movements)

RESHETOV, L. N.

L. N. Reshetov, "On the Application of Mechanisms without Passive Connections."

paper presented at the 2nd All-Union Conf. on Fundamental Problems in the Theory of Machines and Mechanisms, Moscow, USSR, 24-28 March 1978.

RESHETOV, L.N.

PHASE I BOOK EXPLOITATION 1201

Moscow. Vyssheye tekhnicheskoye uchilishche

Voprosy teorii mekhanizmov i mashin (Problems of Theory of Mechanisms and Machines) Moscow, Mashgiz, 1958. 141 p. (Series: Its: [Sbornik] 77) 3,600 copies printed.

Ed. (Title page): Reshetov, L.N., Doctor of Technical Sciences, Professor; Ed. (Inside book): Martens, S.L., Engineer; Tech. Ed.: Tikhanov, A.Ya.; Managing Ed. for Literature on General Technical and Transport Machine Building (Mashgiz): Ponomareva, K.A., Engineer.

PURPOSE: This collection of articles is intended for personnel of engineering departments of machine-building plants.

COVERAGE: Articles in the collection discuss problems of the efficient design of machines and the investigation of machine dynamics. It is recommended that good machine operation be assured by means of proper design rather than by increasing production accuracy. The types of basic mechanisms meeting this requirement are described. The theory is given for approximate shaping of mechanisms with higher

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Problems of Theory (Cont.)

1201

kinematic pairs — cams and cogwheels for large size transmissions. The use of electric methods for measuring mechanical quantities is discussed (balancing and measuring angular velocity oscillations and stresses in a piston connecting rod).

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Beschastnov, R.V. Approximate Profiling of Gear Teeth Meshing With Cogwheels	62
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GO/sfm
2-24-59

Card 3/3

AUTHORS: Reshetov, L.N., Doctor of Technical Sciences, Professor,
and Lukichev, D.M., Candidate of Technical Sciences,
Docent

TITLE: On the Design of Disc Cams with Circular Arc Contours
(O proyektirovanii diskovykh kulachkov, ocherchennykh
dugami okruzhnostey)

PERIODICAL: Vestnik mashinostroyeniya, 1958, Nr 8, pp 14-17 (USSR)

ABSTRACT: A new, analytical method is presented for designing cams
having contours composed of circular arcs only. The
follower is to move with constant acceleration when the
cam rotates uniformly. Geometric relations are used to
find the centres and radii of the arcs from the given
data, so as to achieve the best approximation to uniform
accelerations. An evaluation is given for the deviation
from the mean acceleration. Numerical examples of
applying the new method are given and a graph (Figure 3)
shows the deviations from constant acceleration.
There are 4 figures.

Card 1/1

1. Cams--Design 2. Mathematics

BARANOV, Georgiy Georgiyevich; RESHETOV, L.N., prof., doktor tekhn. nauk, retsenzent; YUDIN, V.A., doktor tekhn. nauk, retsenzent; STUPIN, A.K., red. izd-va; KORABLEVA, R.M., red. izd-va; MODEL', B.I., tekhn. red.

[Theory of mechanisms and machinery] Kurs teorii mekhanizmov i mashin. Izd. 2., perer. i sokrashchennoe. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 488 p. (MIRA 11:9)

1. Zaveduyushchiy kafedroy teorii mekhanizmov i mashin Moskovskogo vysshego tekhnicheskogo uchilishcha imeni Bauman (for Reshetov). (Machinery, Kinematics of)

SOV/122-58-5-1/26

AUTHOR: Reshetov, L.M., Doctor of Technical Sciences, Professor
TITLE: The Design of **Effective** Mechanisms (Konstruirovaniye ratsional'-
nykh mekhanizmov)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, nr 5, pp 3 - 10 (USSR)

ABSTRACT: The paper deals with principles to be adopted in the design of mechanisms which ensure their effective function in spite of deviations in the dimensions of the components. Examples are: the avoidance of identical link-works arranged in parallel and the undesirability of constraints (termed "passive") which transform a statically determinate into an indeterminate system. Passive constraints in a kinematic pair are, however, usually beneficial, since they are made in a single machining set-up and serve a better distribution of loads. A table of kinematic pairs due to Artobolevskiy, I.I. ("Theory of Mechanisms and Machines", 3rd edition, Tekhteor-izdat, 1953) is reproduced where kinematic pairs are grouped by the number of constraints into rows (classes) and by the type of constraints into columns. The most important pairs in this table are briefly discussed. Flexible constraints are considered as representing kinematic pairs. In certain instances, the existence of clearances converts a kinematic

Card1/2

The Design of Economic Mechanisms

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pair into one of a lower class owing to the disappearance of a constraint. The passive constraints which can be left in a mechanism, when it contains intentional clearances, are the important considerations. A general treatment of this problem introduces the conception of the "mobility" of a kinematic configuration. This is formulated for plane and spherical mechanisms. The treatment is illustrated by means of the examples of a slider crank mechanism (Scotch yoke) and of gear trains, including planetary gears. There are 7 figures and 5 Soviet references.

Card 2/2 1. Mechanisms--Design

RESHETOV, L.N., doktor tekhn. nauk, prof.; LUKICHEV, D.M., kand. tekhn.
nauk, dots.

Designing disk cams having circular-arc profiles. Vest. mash. 38
no. 8:14-17 Ag '58. (MIRA 11:8)

(Cams)

RESENOV, L.N., doktor tekhn. nauk, prof.

Designing efficient mechanisms. Vest. mash. 38 no.5:3-10 My '58.
(Machinery, Kinematics of) (MIRA 11:5)